UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/912,132	02/15/2016	Hoyt Y. Chang	67097-2581 PUS1; 73014US0	3205

54549 7590 08/21/2020

CARLSON, GASKEY & OLDS/PRATT & WHITNEY
400 West Maple Road
Suite 350
Birmingham, MI 48009

EXAMINER	
BURKE, THOMAS P	

ART UNIT	PAPER NUMBER
3741	

NOTIFICATION DATE	DELIVERY MODE
08/21/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptodocket@cgolaw.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HOYT Y. CHANG and MICHAEL G. McCAFFREY

Appeal 2020-000411
Application 14/912,132
Technology Center 3700

Before MURRIEL E. CRAWFORD, JOSEPH A. FISCHETTI, and PHILIP J. HOFFMANN, *Administrative Patent Judges*.

HOFFMANN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's rejection of claims 1, 2, 6–12, and 16–20. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

According to Appellant, the "disclosure relates to a gas turbine engine including a plate, a frame attached to the plate, and a panel . . . supported by the frame." Spec. ¶ 4. Claims 1, 12, and 17 are the independent claims on appeal. Below, we reproduce claim 1 as illustrative of the appealed claims.

---

[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies United Technologies Corporation as the real party in interest. Appeal Br. 1.

> 1. A gas turbine engine, comprising:
> a plate;
> a frame attached to the plate; and
> a panel supported by the frame, wherein the panel is spaced-apart from the plate by the frame such that the panel and the plate are not directly connected;
> wherein the panel includes first radially inner flange and a second radially inner flange, and a first radially outer flange and a second radially outer flange spaced-apart from the first radially inner flange and the second radially inner flange by a first slot and a second slot;
> wherein the frame includes a first grip engaging the first radially outer flange of the panel, and a second grip engaging the second radially outer flange of the panel; and
> wherein the first grip and second grip engage both a radially outer surface and a radially inner surface of a respective one of the first radially outer flange and the second radially outer flange.

Appeal Br., Claims App.

REJECTIONS AND PRIOR ART

The Examiner rejects the claims as follows:

I. Claims 6 and 10 under 35 U.S.C. § 112(b) as indefinite;

II. Claims 1, 7, 11, and 17–19 under 35 U.S.C. § 102(a)(1) as anticipated by Krusch (US 2011/0318531 A1, published Dec. 29, 2011);

III. Claims 2, 12, and 16 under 35 U.S.C. § 103 as unpatentable over Krusch and Charleux et al. (US 2012/0301691 A1, published Nov. 29, 2012) ("Charleux");

IV. Claim 6 under 35 U.S.C. § 103 as unpatentable over Krusch and Jeppel et al. (DE 41 14 768 A1, published Nov. 21, 1991) ("Jeppel"); and

V. Claims 8–10 and 20 under 35 U.S.C. § 103 as unpatentable over Krusch and Jacobs et al. (US 5,333,995, issued Aug. 2, 1994) ("Jacobs").

ANALYSIS

Rejection I—Indefiniteness rejection of claims 6 and 10

Claim 6

As stated above, the Examiner rejects dependent claim 6 as indefinite. Specifically, the Examiner determines that "[c]laim 6 recites the limitation 'the first and second projections' in lines 4 [to] 5. It is unclear if the claim requires a single first projection and a single second projection or a group of first projections and a group of second projections." Final Action 2.

As set forth above, independent claim 1 recites, in relevant part, "wherein the frame includes a first grip engaging the first radially outer flange of the panel, and a second grip engaging the second radially outer flange of the panel." Appeal Br., Claims App. Claim 6 depends from claim 1, and recites

> wherein the first grip and the second grip are semicircular and include a first projection engaging radially outer surface and a second projection engaging a radially inner surface of a respective one of the first radially outer flange and the second radially outer flange, the first and second projections connected by a respective semicircular portion extending around a respective one of the first radially outer flange and the second radially outer flange.

Id. Based on our review of the record, consistent with Appellant's argument, the Examiner does not support adequately that the claim is indefinite. Appeal Br. 4–5. Specifically, as claim 6 recites, "the first and second projections [are] connected by a respective semicircular portion extending

around a respective one of the first radially outer flange and the second radially outer flange." *Id.* at Claims App. That is, the claim recites that the first grip's first and second projections are connected by a semicircular portion extending around the first radially outer flange, while the second grip's first and second projections are connected by a semicircular portion extending around the second radially outer flange.

Claim 10

Also, as stated above, the Examiner rejects dependent claim 10 as indefinite. In particular, the Examiner determines that

> [c]laim 10 recites the limitation "each of the grooves receiving projections of an associated one of the first grip and the second grip" in lines 2 [to] 3. It is unclear if the claim requires each of the grooves to receive multiple projections from a single grip[,] or if each of the grooves receives a single projection from one of the first grip or the second grip.

Final Action 2–3.

Claim 10 depends from claim 8, and claim 8 depends from claim 1. Claim 8 recites, in relevant part, "a plurality of shims provided between the first radially outer flange and the second radially outer flange and the first grip and the second grip such that the first and second grips do not directly contact the first and second radially outer flanges." Appeal Br., Claims App. Claim 10 recites, inter alia, "the plurality of shims each include grooves extending circumferentially along the respective shim, each of the grooves receiving projections of an associated one of the first grip and the second grip." *Id.* Based on our review of the record, consistent with Appellant's argument, the Examiner does not support adequately that the claim is indefinite. *Id.* at 5. The claim includes an arrangement in which each of the

shims in the plurality of shims includes a groove, and each groove receives a projection.

Rejection II—Anticipation rejection of claims 1, 7, 11, and 17–19

Claims 1, 7, and 11

As set forth above, independent claim 1 recites, in relevant part, "a plate; a frame attached to the plate; and a panel supported by the frame, wherein *the panel is spaced-apart from the plate by the frame* such that the panel and the plate are not directly connected." Appeal Br., Claims App. (emphasis added). Consistent with Appellant's argument, the Examiner does not support adequately that Krusch discloses this claim recitation, based on our review of the record. Appeal Br. 6.

Specifically, with reference to Krusch's Figure 6, the Examiner finds that Krusch's "panel" 10 is spaced apart from "plate" 5 by "frame" 7. Answer 5. It is not clear, however, that Krusch's "panel" 10 and "plate" 5 are spaced apart, as opposed to in contact with one another. At most, Krusch's Figure 6 arguably shows a gap between elements 5 and 10, although it is not clear that such a gap is present. Despite Appellant's arguments that Krusch does not disclose the claimed spaced-apart arrangement (Appeal Br. 6), the Examiner does not provide a citation, in either the Answer or Final Office Action, to any portion of Krusch describing that elements 5 and 10 are spaced apart. Conversely, although illustrating another embodiment, Krusch's Figures 1 and 2, for example, appear to show elements 5 and 10 directly contact one another. Only a single paragraph in Krusch—paragraph 65—appears to describe the embodiment shown in Figure 6. We do not discern anything in this paragraph explaining that the illustrated embodiment differs from the

embodiments of Figures 1 and 2 by spacing apart elements 5 and 10. *See* Krusch ¶ 65.

Notwithstanding the above discussion, the following provides another reason for not sustaining the Examiner's rejection. Independent claim 1 recites, in relevant part, "the [frame's] first grip and second grip engage both a radially outer surface and a radially inner surface of a respective one of the first radially outer flange and the second radially outer flange [of the panel]." Appeal Br., Claims App. The Examiner does not support adequately that Krusch discloses a frame's first grip engaging both outer and inner surfaces of a panel's first flange (or the frame's second grip engaging both outer and inner surfaces of the panel's second flange). Appeal Br. 6.

In response to Appellant's argument in the Appeal Brief, the Examiner finds that Krusch's element 7 discloses the first grip that engages both outer and inner surfaces of element 10. Answer 6. Specifically, with reference to Krusch's Figure 5, the Examiner finds that element 7's portions 18 and 21 disclose the claimed inner-surface and outer-surface engaging portions, as claimed. *See id.* ("Krusch's first grip is interpreted as both elements 21 (the radially outer element) and 18 (the radially inner element) of Figure 5.") (emphasis omitted). It is not apparent to us, however, that Krusch's surface 18 of element 7 ever engages element 10. *See, e.g.*, Krusch Fig. 1.

Consequently, we do not sustain the Examiner's anticipation rejection of claim 1. We also do not sustain the Examiner's rejection of claims 7 and 11 that depend from, and the Examiner rejects with, claim 1.

Claims 17–19

Independent claim 17 includes recitations similar to both of those discussed above with respect to claim 1. Thus, we do not sustain the

Examiner's anticipation rejection of independent claim 17, or of dependent claims 18 and 19 depending from claim 17, for the same reasons that we do not sustain claim 1's anticipation rejection.

Rejections III–V—Obviousness rejections of claims 2, 6, 8–10, 12, 16, and 20

Claims 2, 6, 8–10, and 20

Claims 2, 6, 8–10, and 20 depend from independent claims 1 and 17. The Examiner does not rely on any reference to disclose anything that would remedy the above deficiency in the rejection of claim 1 or claim 17. Thus, we do not sustain any of the Examiner's obviousness rejections of claims 2, 6, 8–10, and 20.

Claims 12 and 16

Independent claim 12 recites:

> 12. A panel for a gas turbine engine, comprising:
> a radially outer flange; and
> a radially inner flange protruding axially beyond the radially outer flange;
> a slot formed between the radially inner flange and the radially outer flange;
> wherein the panel is formed of a ceramic matric composite (CMC) material; and
> wherein the CMC material includes a plurality of axial fibers, a length of the axial fibers arranged to follow a contour of the slot.

Appeal Br., Claims App. Paragraphs 62–64 of Appellant's Specification describe, with reference to Appellant's Figures 6A–C, the claim recitation that the CMC material includes a plurality of axial fibers, where a length of the axial fibers is arranged to follow a contour of the panel's slot. For example, paragraph 63 of Appellant's Specification states, and Figure 6B shows, that "the axial length of the fibers . . . follows the semi-circular

contour . . . of the slots." That is, arrangement of an axial fiber near a curved portion of a slot results in a curve in the axial fiber. This is in contrast to what paragraph 62 of Appellant's Specification states, and Figure 6A shows—an arrangement in which axial fibers near a slot do not curve. Thus, when given its broadest, reasonable interpretation consistent with the Specification, the above claim recitation includes an arrangement in which an axial fiber near a slot curves.

Consistent with Appellant's argument, the Examiner does not support adequately that Charleux discloses an arrangement in which a length of the axial fibers is arranged to follow a contour of the panel's slot, as claimed. Appeal Br. 7; Answer 8–10. According to the Examiner, Charleux discloses the claim recitation because at least adjacent a slot's straight portion, Charleux's fibers are straight—i.e., at this location, the fibers follow the (straight) contour of the slot. Answer 8–10. As discussed above, however, the discussed claim recitation requires an axial fiber near a curved portion of a slot to curve. The Examiner does not support adequately that Charleux discloses such an arrangement. Accordingly, we do not sustain the Examiner's obviousness rejection of independent claim 12, or of claim 16 that depends from, and that the Examiner rejects with, claim 12.

CONCLUSION

We REVERSE the Examiner's indefiniteness, anticipation, and obviousness rejection of claims 1, 2, 6–12, and 16–20.

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
6, 10	112(b)	Indefiniteness		6, 10
1, 7, 11, 17–19	102(a)(1)	Krusch		1, 7, 11, 17–19
2, 12, 16	103	Krusch, Charleux		2, 12, 16
6	103	Krusch, Jeppel		6
8–10, 20	103	Krusch, Jacobs		8–10, 20
Overall Outcome:				1, 2, 6–12, 16–20

REVERSED